

Appl. No.: 10/037,987  
Art Unit: 1712 Docket No.: B01-30  
Reply to Office Action of May 17, 2004

### REMARKS

Claims 1, 10-11, 13, and 16-34 appear in this application for the Examiner's review and consideration.

Claim 1 has been amended to recite that the nanoparticulate is solely in the core, which now has a preferred diameter and comprises a base rubber, and that the golf ball has a thin, non-rubber intermediate layer.

Claim 13 has been amended to correct its dependency.

Claims 12 and 35-37 have been cancelled. No new matter has been added by these amendments and addition.

### Rejections Over U.S. Patent No. 6,454,666

Claims 1 and 16-19 were rejected under 35 U.S.C. § 102(e) or § 103(a) over U.S. Patent No. 6,454,666 to Shira ("Shira").

For claims to be rejected under 35 U.S.C. § 102(e), each and every element as set forth in the claims of the present invention must be found, either expressively or inherently, in a single prior art reference. Applicants respectfully submit that Shira does not disclose at least nano-ZnO, let alone in a core, as now recited in claim 1 of the present invention.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that Shira does not disclose or even suggest all claim limitations, specifically the core and intermediate layer compositions and constructions now recited in claim 1 of the present invention. Moreover, Shira teaches away from the present invention by encouraging the use of dense, metal nanoparticles in the golf ball cover.

For at least the above reasons, independent claim 1 is believed to be in condition for allowance. Claims 16-19 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejections under 35 U.S.C. § 102(e) and § 103(a) be reconsidered and withdrawn.

Appl. No.: 10/037,987  
Art Unit: 1712 Docket No.: B01-30  
Reply to Office Action of May 17, 2004

**Rejection Over U.S. Patent Application Publication No. 2003/0100656**

Claims 1, 10, 11, and 16 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2003/0100656 to Majumdar *et al.* ("Majumdar").

Applicants respectfully submit that Majumdar does not disclose or even suggest all claim limitations, specifically at least a core containing a base rubber and nano-ZnO, let alone at the dimensions now recited in claim 1 of the present invention. The Examiner even points out on page 3 of the Office Action that Majumdar "does not describe the golf ball as having a core and cover," let alone properties of the core or cover.

For at least the above reason, independent claim 1 is believed to be in condition for allowance. Claims 10, 11, and 16 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

**Rejection Over U.S. Patent No. 3,359,231**

Claims 1, 10, and 16 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 3,359,231 to Kent ("Kent").

Applicants respectfully submit that Kent does not disclose the use of nano-ZnO nanoparticulates in a rubber-based core having a preferred outer diameter of 1.55-1.62 inches, or a thin, non-rubber intermediate layer. Moreover, Kent actually teaches away by encouraging the use of silicaceous materials in a golf ball *cover* layer.

For at least the above reasons, independent claim 1 is believed to be in condition for allowance. Claims 10 and 16 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

**Rejection Over U.S. Patent No. 4,611,810**

Claims 1, 10, 16, 28, and 35-37 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,611,810 to Kamata *et al.* ("Kamata").

Applicants respectfully submit that Kamata does not disclose at least nano-ZnO or a intermediate layer, let alone one having the construction and compositional requirements of the

Appl. No.: 10/037,987  
Art Unit: 1712 Docket No.: B01-30  
Reply to Office Action of May 17, 2004

present invention. Further, Kamata teaches away from the present invention by suggesting the use of colloidal calcium carbonate in the rubber composition.

For at least the above reason, independent claim 1 is believed to be in condition for allowance. Claims 10, 16, and 28 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

**Rejections Over Japanese Patent No. 11-244419**

Claims 1, 10, 12, 13, 16-20, and 28-37 were rejected under 35 U.S.C. § 102(b) or § 103(a) over Japanese Patent No. 11-244419 to Takashi ("Takashi").

The JP '419 reference does not disclose all claim elements nor does it suggest them. Specifically, JP' 419 fails to disclose a core having a diameter of 1.55-1.62 inches or a non-rubber intermediate layer. In fact, the JP '419 reference teaches away from the thin, non-rubber-based intermediate layer of the present invention because, their outer core layer (an intermediate layer) is rubber based and has a thickness greater than the 0.035 inches or less of the present invention (0.04-0.4 inches; for example, see page 2, lines 1-3)

For at least the above reasons, independent claim 1 is believed to be in condition for allowance. Claims 10, 12, 16-20, and 28-37 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejections under 35 U.S.C. § 102(b) and § 103(a) be reconsidered and withdrawn.

**Rejection Over JP '419 In View Of International Publication No. WO 01/43832**

Claims 1, 10, 12, 13, 16-21, and 28-37 were rejected under 35 U.S.C. § 103(a) over JP '419 in view of International Publication No. WO 01/43832 to Wu ("Wu").

Wu does not cure the deficiencies of JP '419, as Wu is entirely silent at least on the use of nano-ZnO in a golf ball core having a diameter of 1.55-1.62 inches, in combination with a thin, non-rubber intermediate layer.

For at least the above reasons, independent claim 1 is now believed to be in condition for allowance. Claims 10, 12, 16-21, and 28-34 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Appl. No.: 10/037,987  
Art Unit: 1712 Docket No.: B01-30  
Reply to Office Action of May 17, 2004

**Rejection Over Takashi In View Of U.S. Patent No. 5,885,172**

Claims 1, 10, 12, 13, 16-20, and 22-37 were rejected under 35 U.S.C. § 103(a) over Takashi in view of U.S. Patent No. 5,885,172 to Hebert *et al.* ("Hebert").

As discussed above, JP '419 does not disclose or even suggest all elements recited in claim 1 of the present invention. Hebert does not cure these deficiencies, not the least of which are the nano-ZnO composition and the ZnO particle size, now recited in claim 1 of the present invention.

For at least the above reasons, independent claim 1 is believed to be in condition for allowance. Claims 10, 12, 16-20, and 22-34 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

**Rejection Over U.S. Patent Application Publication No. 2001/0024982**

Claims 1, 10, 11, 16-20, and 22-37 were rejected under 35 U.S.C. § 102(a) over U.S. Patent Application Publication No. 2001/0024982 to Cavallaro *et al.* ("Cavallaro").

Applicants respectfully submit that Cavallaro does not disclose all of the elements now recited in claim 1 of the present invention, including the nano-ZnO composition where the ZnO has a particle size of less than 1000 nm. Applicants note that paragraph 110 of the Cavallaro publication refers to fillers that can be added to the polyurethane cover compositions.

For at least the above reason, independent claim 1 is believed to be in condition for allowance. Claims 10, 11, 16-20, and 22-34 are believed to be patentable at least by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 102(a) be reconsidered and withdrawn.

**Obviousness-Type Double Patenting Rejection**

Claims 1, 10, 12, 13, and 16 were rejected under obviousness-type double patenting over U.S. Patent No. 6,710,114 to Bissonnette *et al.* ("Bissonnette").

Applicants respectfully submit that as a result of the claim amendments herein, the claims of Bissonnette are now patentably distinct from those of the present invention. As such, Applicants respectfully believe that a terminal disclaimer is, therefore, not needed to disclaim any excess patent term for the above captioned application, once issued. Applicants respectfully request that the obviousness-type double patenting rejection be reconsidered and withdrawn.

Appl. No.: 10/037,987  
Art Unit: 1712 Docket No.: B01-30  
Reply to Office Action of May 17, 2004

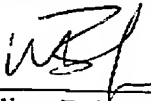
### CONCLUSION

Based on the remarks set forth above, Applicants believe that all of the rejections have been overcome and the claims of the subject application are in condition for allowance. Should the Examiner have any further concerns or believe that a discussion with the Applicants' attorney would further the prosecution of this application, the Examiner is encouraged to call the attorney at the number below.

A fee of \$110.00 is believed to be due for this submission to extend the time for which this response is due by one (1) month, from August 17, 2004 to September 17, 2004. Should any other required fees be due, however, please charge them to Acushnet Company Deposit Account No. 502309.

Respectfully submitted,

Date: September 8, 2004

  
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William B. Lacy (Reg. No. 48,619)  
Patent Counsel  
Acushnet Company

Phone: (508) 979-3540  
Customer Number: 040990